

What is claimed is:

1. A short film generation/reproduction apparatus for generating video using at least one still picture and reproducing said video, comprising:

5 a database unit operable to store said at least one still picture, a picture feature indicating a feature of said at least one still picture, a style indicating an outline of the video to be generated, a style feature indicating a feature of said style, music, and a musical feature indicating a feature of said music;

10 a selection unit operable to select one of the following elements to be used when generating the video: said at least one still picture; the music; and the style;

a feature reading unit operable to read out, from the database unit, the feature corresponding to the element selected by the selection unit, the feature being one of the picture feature, the musical feature, and the style feature;

15 a feature conversion unit operable to convert the feature read out by the feature reading unit into the other features;

a determination unit operable to determine the elements to be used to generate the video other than the element selected by the selection unit, based on said other features converted by the feature conversion unit; and

20 a scenario generation unit operable to generate a scenario of the video, based on the element selected by the selection unit and the other elements determined by the determination unit.

2. The short film generation/reproduction apparatus according to Claim 1,

30 wherein the feature conversion unit converts the picture feature read out by the feature reading unit into the musical feature and the style feature, when the selection unit selects said at least one still picture.

3. The short film generation/reproduction apparatus according to Claim 1,

5 wherein the feature conversion unit converts the musical feature read out by the feature reading unit into the picture feature and the style feature, when the selection unit selects the music.

4. The short film generation/reproduction apparatus according to Claim 1,

10 wherein the feature conversion unit converts the style feature read out by the feature reading unit into the picture feature and the musical feature, when the selection unit selects the style.

5. The short film generation/reproduction apparatus according to Claim 1,

15 wherein the database unit further stores a theme of the video to be generated and a theme feature indicating a feature of said theme,

20 the selection unit selects one of the following elements to be used when generating the video: said at least one still picture; the music; the style; and the theme, and

25 the feature reading unit reads out, from the database unit, the feature corresponding to the element selected by the selection unit, the feature being one of the picture feature, the musical feature, the style feature, and the theme feature.

6. The short film generation/reproduction apparatus according to Claim 2,

30 wherein the feature conversion unit converts the theme feature read out by the feature reading unit into the picture feature, the musical feature, and the style feature, when the selection unit selects the theme.

7. The short film generation/reproduction apparatus according to Claim 1, further comprising:

5 a still picture obtainment unit operable to obtain a still picture; and

a picture feature extraction unit operable to extract a picture feature from the still picture obtained by the still picture obtainment unit.

10 8. The short film generation/reproduction apparatus according to Claim 7, further comprising an object information extraction unit operable to extract object information from the still picture obtained by the still picture obtainment unit, the object information being information about an object included in said still picture.

15 9. The short film generation/reproduction apparatus according to Claim 8,

wherein the style includes (i) a predetermined number of effects specifying what kind of visual effect is used to reproduce at least one target still picture which is the still picture obtained by the still picture obtainment unit and (ii) a parameter including an attribute of the style, and

20 the scenario generation unit associates, with each of the predetermined number of effects, the object information included in said at least one target still picture of said each of the predetermined number of effects.

10. The short film generation/reproduction apparatus according to Claim 9,

30 wherein the scenario generation unit includes:

an effect arrangement unit operable to select effects one by one from among the predetermined number of effects included in

the style, and arrange said selected effects one by one in a time domain;

5 a still picture assignment unit operable to assign a still picture to each of the effects arranged in the time domain by the effect arrangement unit on the basis of the object information, the still picture satisfying a picture feature required by the respective effects; and

10 a parameter setting unit operable to generate the scenario by describing a parameter indicating processing to be performed on the object suitable for each of the effects arranged in the time domain by the effect arrangement unit, and store said generated scenario in the database unit.

11. The short film generation/reproduction apparatus according to Claim 10,

wherein the picture feature required by each of the effects is a feature of the object.

12. The short film generation/reproduction apparatus according to Claim 10,

wherein the feature of the object is at least one of a type of the object, a color of the object, a shape of the object, and the number of objects.

25 13. The short film generation/reproduction apparatus according to Claim 10, further comprising a feature point extraction unit operable to extract, from the object, a feature point indicating a characteristic part of the object, and store the extracted feature point in the object information,

30 wherein the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on a position where the feature point of the object is located.

14. The short film generation/reproduction apparatus according to Claim 10,

wherein the database unit further stores face information for individual authentication used to identify a face of an individual,

the short film generation/reproduction apparatus further comprises a face authentication unit operable to authenticate a name of the object using the face information and store said authenticated name of the object in the object information, when the object extracted by the object information extraction unit is a person's face, and

the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on the object specified by said authenticated name.

15. The short film generation/reproduction apparatus according to Claim 14, further comprising:

an individual information storage unit operable to store individual information in which a name of an individual and an attribute of said individual are associated with each other; and

an individual information search unit operable to search, from the individual information, for the attribute of the individual corresponding to the name of the object authenticated by the face authentication unit, and store said individual attribute obtained by the search in the object information,

wherein the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on the object specified by said individual attribute.

16. The short film generation/reproduction apparatus according to Claim 1,

wherein the style includes (i) a predetermined number of

effects specifying what kind of visual effect is used to reproduce said at least one still picture which is a target of each of the predetermined number of effects and (ii) a parameter including an attribute of the style, and

5 the scenario generation unit arranges said predetermined number of effects based on the attribute included in the style and an attribute included in each of the predetermined number of effects.

17. The short film generation/reproduction apparatus according
10 to Claim 16,

 wherein the predetermined number of effects is either a basic effect including only one effect or an effect block made up of a plurality of basic effects, and

 the scenario generation unit arranges the basic effect or the
15 effect block, based on the attribute included in the style and the attribute included in each of the predetermined number of effects.

18. The short film generation/reproduction apparatus according to Claim 16,

20 wherein the scenario generation unit assigns a still picture to each of the predetermined number of effects, the still picture being suitable for a type of each of said predetermined number of effects.

19. The short film generation/reproduction apparatus according
25 to Claim 1, further comprising:

 a short film selection unit operable to select the video to be reproduced; and

 a short film reproduction unit operable to read out, from the database unit, the scenario of the video selected by the short film
30 selection unit, and said at least one still picture and the music defined in said scenario, and reproduce the video based on said scenario.

20. The short film generation/reproduction apparatus according to Claim 19, further comprising a display unit operable to display the video reproduced by the short film reproduction unit.

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21. The short film generation/reproduction apparatus according to Claim 19, further comprising an operation unit operable to operate the short film generation/reproduction apparatus and a display device for displaying the video, the display device being
10 connected to said short film generation/reproduction apparatus,

wherein the short film reproduction unit modulates a signal obtained by reproducing the video into an RF signal so as to output said RF signal, and starts reproducing the video when a predetermined channel button is pressed down, the channel button
15 being included in the operation unit and being assigned the RF signal.

22. The short film generation/reproduction apparatus according to Claim 21,

20 wherein the short film reproduction unit switches the video being reproduced to another video, every time the channel button is pressed down.

23. The short film generation/reproduction apparatus according to Claim 22,

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wherein the short film reproduction unit reproduces a plurality of videos and outputs a plurality of RF signals all at once.

24. The short film generation/reproduction apparatus according to Claim 19, further comprising an operation unit operable to operate the short film generation/reproduction apparatus and a display device for displaying the video, the display device being
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connected to said short film generation/reproduction apparatus,

wherein the short film reproduction unit modulates a signal obtained by reproducing the video into a video signal so as to output said video signal, and starts reproducing the video when a predetermined button is pressed down, the button being included in the operation unit and being assigned the video signal.

25. The short film generation/reproduction apparatus according to Claim 24,

wherein the short film reproduction unit switches the video being reproduced to another video, every time the button is pressed down.

26. The short film generation/reproduction apparatus according to Claim 1,

wherein the short film generation/reproduction apparatus is a home server.

27. A short film generation/reproduction apparatus for generating video using at least one still picture and reproducing said video, comprising:

an operation unit operable to operate the short film generation/reproduction apparatus and a display device for displaying the video, the display device being connected to said short film generation/reproduction apparatus; and

a short film reproduction unit operable to modulate a signal obtained by reproducing the video into an RF signal so as to output said RF signal, and start reproducing the video when a predetermined button is pressed down, the button being included in the operation unit and being assigned the RF signal.

28. A short film generation/reproduction apparatus for

generating video using at least one still picture and reproducing said video, comprising:

a database unit operable to store said at least one still picture, a picture feature indicating a feature of said at least one still picture, music, a musical feature indicating a feature of said music, and an effect specifying what kind of visual effect is used to reproduce said at least one still picture which is a target of said effect;

a selection unit operable to select either of the following elements to be used when generating the video: said at least one still picture; and the music;

a feature reading unit operable to read out, from the database unit, the feature corresponding to the element selected by the selection unit, the feature being either the picture feature or the musical feature;

a feature conversion unit operable to convert the feature read out by the feature reading unit into the other feature;

a determination unit operable to determine the other element, based on said other feature converted by the feature conversion unit;

a style generation unit operable to determine a predetermined number of effects and a parameter used to generate the video, and generate a style indicating an outline of the video to be generated, based on the element selected by the selection unit and the other element determined by the determination unit; and

a scenario generation unit operable to generate a scenario of the video, based on the element selected by the selection unit and the other element determined by the determination unit, and the style generated by the style generation unit.

29. A short film generation/reproduction apparatus for generating video using at least one still picture and reproducing said video, comprising:

a still picture obtainment unit operable to obtain a still picture;

a database unit operable to store said still picture; and

an object information extraction unit operable to extract,
5 from the still picture obtained by the still picture obtainment unit, an object included in said still picture, and store, in the database unit, object information including a position of said extracted object.

30. A short film generation/reproduction apparatus for
10 generating video using at least one still picture and reproducing said video, comprising:

an input unit operable to obtain a still picture inputted from outside;

a database unit operable to store said at least one still picture,
15 a style including (i) a predetermined number of effects specifying what kind of visual effect is used to reproduce said at least one still picture which is a target of each of the predetermined number of effects and (ii) a parameter, and music used for the video to be generated, and

20 a scenario generation unit operable to generate a scenario of the video, based on a predetermined feature of the style and a predetermined feature of the music,

wherein the input unit includes an object information extraction unit operable to extract an object included in a still
25 picture every time a still picture is inputted from outside and store, in the database unit, object information including a position of the extracted object,

the scenario generation unit includes:

an effect arrangement unit operable to select effects one by
30 one from among a group of effects stored in the database unit, and arrange said selected effects one by one in a time domain;

a still picture assignment unit operable to assign a still picture

to each of the effects arranged in the time domain by the effect arrangement unit based on the object information stored in the database unit, the still picture satisfying a picture feature required by the respective effects; and

5 a parameter setting unit operable to generate the scenario by describing a parameter indicating processing to be performed on the object suitable for each of the effects arranged in the time domain by the effect arrangement unit, and store said generated scenario in the database unit.

10 31. The short film generation/reproduction apparatus according to Claim 30,

 wherein the picture feature required by each of the effects is a feature of the object.

15 32. The short film generation/reproduction apparatus according to Claim 31,

 wherein the feature of the object is at least one of a type of the object, a color of the object, a shape of the object, and the
20 number of objects.

 33. The short film generation/reproduction apparatus according to Claim 30,

 wherein the input unit further includes a feature point
25 extraction unit operable to extract, from the object, a feature point indicating a characteristic part of the object, and

 the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on a position where the feature point of the object is located.

30 34. The short film generation/reproduction apparatus according to Claim 30,

wherein the database unit further stores face information for individual authentication used to identify a face of an individual,

the input unit further includes a face authentication unit operable to authenticate a name of the object using the face information and store said authenticated name of the object in the object information, when the object extracted by the object information extraction unit is a person's face, and

the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on the object specified by said authenticated name.

35. The short film generation/reproduction apparatus according to Claim 34, further comprising an individual information storage unit operable to store individual information in which a name of an individual and an attribute of said individual are associated with each other,

wherein the input unit further includes an individual information search unit operable to search, from the individual information, for the attribute of the individual corresponding to the name of the object authenticated by the face authentication unit, and store said individual attribute obtained by the search in the object information, and

the parameter setting unit generates the scenario by describing a parameter indicating processing to be performed on the object specified by said individual attribute.

36. A short film generation/reproduction system comprising:

a short film generation/reproduction apparatus for generating video using at least one still picture and reproducing said video; and

a short film reproduction apparatus which is connected to said short film generation/reproduction apparatus via a network,

wherein the short film generation/reproduction apparatus

includes:

a database unit operable to store said at least one still picture,
a picture feature indicating a feature of said at least one still picture,
a style indicating an outline of the video to be generated, a style
5 feature indicating a feature of said style, music, and a musical
feature indicating a feature of said music;

a selection unit operable to select one of the following
elements to be used when generating the video: said at least one
still picture; the music; and the style;

10 a feature reading unit operable to read out, from the database
unit, the feature corresponding to the element selected by the
selection unit, the feature being one of the picture feature, the
musical feature, and the style feature;

a feature conversion unit operable to convert the feature read
15 out by the feature reading unit into the other features;

a determination unit operable to determine the elements to
be used to generate the video other than the element selected by
the selection unit, based on said other features converted by the
feature conversion unit;

20 a scenario generation unit operable to generate a scenario of
the video, based on the element selected by the selection unit and
the other elements determined by the determination unit; and

a first communication unit operable to read out, from the
database unit, the scenario of the video selected by the short film
25 reproduction apparatus, and said at least one still picture and the
music defined in said scenario, and send the readout scenario, at
least one still picture and music to the short film reproduction
apparatus via the network, and

the short film reproduction apparatus includes:

30 a short film selection unit operable to select the video to be
reproduced;

a second communication unit operable to communicate with

the short film generation/reproduction apparatus via the network;

a storage unit operable to temporarily store the scenario of the video, and said at least one still picture and the music defined in said scenario which are sent by the short film generation/reproduction apparatus;

a short film reproduction unit operable to read out, from the storage unit, the scenario of the video selected by the short film selection unit, and said at least one still picture and the music defined in said scenario, and reproduce the video based on said scenario; and

a display unit operable to display the video reproduced by the short film reproduction unit.

37. A short film generation/reproduction method for generating video using at least one still picture and reproducing said video, comprising:

a selection step of selecting one of the following elements to be used to generate the video: said at least one still picture; music; and a style indicating an outline of the video to be generated;

a feature reading step of reading out a feature corresponding to the element selected in the selection step;

a feature conversion step of converting the feature read out in the feature reading step into other features;

a determination step of determining the elements to be used to generate the video other than the element selected in the selection step, based on said other features converted in the feature conversion step; and

a scenario generation step of generating a scenario of the video, based on the element selected in the selection step and the other elements determined in the determination step.

38. A short film generation/reproduction method for generating

video using at least one still picture and reproducing said video, comprising:

an input step of obtaining a still picture inputted from outside; and

5 a scenario generation step of generating a scenario of the video, based on a predetermined feature of a style indicating an outline of the video to be generated and a predetermined feature of music to be used to generate the video,

wherein the input step includes an object information
10 extraction step of extracting an object included in a still picture every time a still picture is inputted from outside, and generating object information including a position of the extracted object,

the scenario generation step includes:

an effect arrangement step of selecting effects one by one
15 from among a group of effects, and arranging said selected effects one by one in a time domain;

a still picture assignment step of assigning a still picture to each of the effects arranged in the time domain in the effect arrangement step based on the object information, the still picture
20 satisfying a picture feature required by the respective effects; and

a parameter setting step of generating the scenario by describing a parameter indicating processing to be performed on the object suitable for each of the effects arranged in the time domain in the effect arrangement step.

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39. A program for generating video using at least one still picture and reproducing said video, the program causing a computer to execute the following steps:

a selection step of selecting one of the following elements to
30 be used to generate the video: said at least one still picture; music; and a style indicating an outline of the video to be generated;

a feature reading step of reading out a feature corresponding

to the element selected in the selection step;

a feature conversion step of converting the feature read out in the feature reading step into other features;

5 a determination step of determining the elements to be used to generate the video other than the element selected in the selection step, based on said other features converted in the feature conversion step; and

10 a scenario generation step of generating a scenario of the video, based on the element selected in the selection step and the other elements determined in the determination step.

40. A program for generating video using at least one still picture and reproducing said video, the program causing a computer to execute the following steps:

15 an input step of obtaining a still picture inputted from outside; and

20 a scenario generation step of generating a scenario of the video, based on a predetermined feature of a style indicating an outline of the video to be generated and a predetermined feature of music to be used to generate the video,

wherein the input step includes an object information extraction step of extracting an object included in a still picture every time a still picture is inputted from outside, and generating object information including a position of the extracted object,

25 the scenario generation step includes:

an effect arrangement step of selecting effects one by one from among a group of effects, and arranging said selected effects one by one in a time domain;

30 a still picture assignment step of assigning a still picture to each of the effects arranged in the time domain in the effect arrangement step based on the object information, the still picture satisfying a picture feature required by the respective effects; and

a parameter setting step of generating the scenario by describing a parameter indicating processing to be performed on the object suitable for each of the effects arranged in the time domain in the effect arrangement step.

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